

ASTP (USSR) PRESS CONFERENCE SR83/2

Time: 02:41 CDT, 67:21 GET

7/18/75

ANSWER (I was watching the seconds on the board and I am sorry I just didn't - I was not concerned with geography at the moment. Houston said that it was somewhere over Amsterdam.)

MCC-H This question has been answered.

MCC-H We all agree. (English)

QUERY - - Hungary. My question is aimed at Seromyatnikov. If he believes that it is not appropriate for him to answer, maybe to somebody else. I understand that the docking mechanism is a joint effort. However, whose precisely idea was it? And would the author tell us, if it was his idea, just how he arrived at this idea?)

MCC-H It will be answered by Seromyatnikov and supplemented by Academician Petrov.

SEROMYATNIKOV (I heard a little bit about the press conference that took place here yesterday, and what was said here about me by Victor Blagov. According to the schedule of yesterday's and today's flight I had approximately 4 hours of sleep. However, in reality I didn't even have 2, because the telephone kept ringing and my friends wanted to congratulate me. I don't want to have another sleepless night, and therefore I will not say who personally designed the mechanism.)

PETROV The docking mechanism is the combined effort of specialists of the two countries. It is an international child. And as an international child the child is androgenous. And before as we were designing our own system non-androgenous (garble) we always believed that docking is the effort of cooperation. And that's exactly how it turned out.)

END OF TAPE

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PETROV (I can only add very little after that. I myself witnessed all this work from the very beginning right up until today. The beginning was somewhere in October 1970. And uh I should say that the talent and the engineering, the original engineering thought of the American and Soviet specialists was sort of a focal point of all of this work. If we carefully analyze what this cooperation between specialists of the two countries conclude - evidence - and our independent specialists had a great deal of experience - accumulated a great deal of experience prior to this. Then we see the qualitatively new engineering effort that evolved from this and was not only evolved but was realized, because here it is not only the idea itself that is important, but also making this idea a technical reality. This is a vivid example of such creative engineering cooperation which was demonstrated for the whole world to see. I think we have all justification to congratulate them on their wonderful success.)

MCC-H (Two more questions.)

QUERY (French press: I know that due to the fact that this new docking system is so successful that there have been approximately 10 such systems produced in the Soviet Union and they were used on approximately 4 Soyuz ships. If this new androgenous peripheral docking system is so successful, could you say when approximately one or more will be used on the Salyut experimental station?)

SEROMYATNIKOV Apparently it's not so important right now how many such aggregates were already constructed. I have no doubt that both the Soviet Union and the United States are capable of building as many such devices as they need for future flights; however every solution must have its technical justification. In order to place such a docking mechanism on the Salyut station, modifications must be made. I have no doubt that this will be done, but a study of future programs will tell us in the future when this will be done.)

MCC-H (Comrade Seromyatnikov smokes only Apollo Soyuz.)

QUERY Charles Wallace, UPI. May I ask you please, I don't understand what the uh - - (English)

ANSWER I myself don't smoke, but I got this package of cigarettes luckily at the Control Center when we were marking the successful docking event. And I can tell you that all smokers and non-smokers were happy to get a package. And with cosmic speed finally the cigarettes were sold here at the center. One more question.)

QUERY Charles Wallace, UPI. I'm afraid I don't understand all the ambiguity that surrounds the end of the mission of the Salyut experimental station. Aren't we aware of, or aren't the space controllers aware of exactly when it's going to return to Earth - the Salyut?

ANSWER (Those who guide the Salyut - they most likely do know. I give the floor to the BBC correspondent.)

QUERY I have a question which I hope is not peripheral but maybe androgynous: Can you tell us, following President Ford's example, whether Mr. Brezhnev intends to have a conversation with these crews during the flight? (English)

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ANSWER (We still have many briefings ahead of us and on one of them we'll answer that question. There are still many events awaiting us out in space and at the Press Center. Today at 8:30 Moscow time in the evening from 8:30 to 9 there will be a press conference with the spacecraft. Our next briefing will be on schedule at 6:00 this evening. I'd like to say thank you to Georgiy Shonin, Vadim Kravets and Academician Petrov and Vladimir Seromyatnikov and also to you for your kind attention. Thank you.)

END OF TAPE

ASTP (USSR) MISSION SR85/1  
Time: 03:19 CDT, 67:59 GET  
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KIO This is the Soviet Mission Control Center. Moscow time is 11:19. The spacecraft Soyuz has begun its 47th orbit of flight. At the present time it is approaching the coastline of India. The predicted orbital parameters for the 47th orbit are as follows: maximum altitude 0 225.6 kilometers; minimum altitude - 221 kilometers; orbital period - 88.9 minutes; inclination of the orbit toward the equator - 51.78 degrees centigrade. The following activities are planned for this orbit: lunch, after this the performance of communication session, which will take place at 11:27. The spacecraft will enter the coverage zone of tracking stations Ulan-Ude, Ussurisk, Petropavlovsk-Kamchatsky. The communication session will be carried out until 11:42. Further, the crew will perform the gyro correction, monitoring of the spacecraft systems, and will go over the experiment S-1 - microbial growth, then the crew will equalize the pressure between modules of the descent vehicle and orbital module and tunnel 2, and, after this, will start the preparations for the operation of the second transfer of the crews. Mission Control Center, Moscow.

KIO This is the Soviet Mission Control Center. In one minute the spacecraft Soyuz will enter the coverage zone of tracking stations Ulan-Ude, Ussurisk and Petropavlovsk-Kamchatsky.

CC-M Soyuz, this is Moscow.

CC-M Soyuz, Soyuz, this is Moscow.

CC-M Soyuz, this is Moscow.

USSR Moscow, this is Soyuz. How do you read me?

CC-M Soyuz, this is Moscow. How do you read me?

USSR (Garble)

CC-M Soyuz, this is Moscow.

USSR I read you well. We have lunch now, so I have to go

downstairs.

MCC-M Roger. Forgive me please.

USSR Never mind. Work is work.

MCC-M We will give radiogram, form 2, for voice correction. And take note of a TV report and then go on, get ready for a TV report.

MCC-M Did you finish your lunch?

USSR No, we swallowed it. We made system check. Well, everything is fine onboard. No changes. We are feeling well, as if it were our permanent home. And now go ahead.

MCC-M Roger. Form 2, number 50. Longitude - 208; Period - 88.89; Orbit - 046.4; Ignition time 11:51:39. How did you receive me?

USSR Longitude - 208. Period - 88.89. Orbit - 046.4. Ignition time - 11:51:39.

MCC-M Perfectly correct. Now you will begin TV-9.2 at 11:32:00 and finish at 11:40. One minute is left, and the reset coverage zone is at 12:51-13:14, Moscow; 13:30-13:35 through the Vanguard backup.

CC-M Soyuz. This is Moscow. We are watching you on TV screens.

USSR Do you?

CC-M Yes, yes.

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SFE                      Good morning, dear TV viewers. The spacecraft Soyuz, where, onboard, we are flying for three days, is on the orbit. Yesterday was a very special day for our spacecraft. We were hosts in our hospitable home. We performed the world's first space reception. American astronauts, Tom Stafford and Slayton, exactly on scheduled time, opened the hatch and we had the opportunity to shake hands over the border line of the two spacecraft edges. This event was preceded by a very long and strenuous work on ground and consequent preparations in space. Our spacecraft were approaching each other for some time but the last moment before docking elapsed instantly. Maybe we were too busy to notice it but, an instant, and the spacecraft joined. A soft touch and we were in a hard capture. This way we accomplished the initial phase of our joint activity and our colleagues brought their equipment, mounted it and arranged the first TV transmission. It was a short TV report but it was sufficient to let you know what was happening here. No doubt, it was a thrilling experience for us, as well as for the American astronauts. Everything was happening very quickly. Afterwards we exchanged the scientific equipment, souvenirs and, back to work, we started to execute our joint activities. Our first meeting lasted much longer than expected because our spacecraft Soyuz was very hospitable. Alexey was right in saying that our meeting has been very thrilling for us and for our American colleagues. We were carrying out the special obligation of goodwill of our government and our people. A goodwill in striving for peace and cooperation. As expression of this striving was the exchange of flags, the signing of joint certificates, representing the statement of astronauts and cosmonauts. Beside this, we exchanged some scientific equipment, and, partly, we exchanged some equipment for the Zone-Forming Fungi experiment and for Microbial experiment. In general lines, everything was going well and when the American astronauts left, we delayed the schedule by approximately one hour, i.e., our meeting lasted one hour longer than planned. It lasted 2-1/2 hours instead of the predicted 1-1/2 hours. We didn't want to part but the Mission Control has demanded that the scheduled program be carried out and, therefore, the astronauts had to go to their spacecraft and we remained here. We closed hatches, dumped pressure ...

END OF TAPE

ASTP (USSR) MISSION SR86/1  
Time: 03:37 CDT, 68:16 GET  
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USSR ... thus American astronauts had to return to their spacecraft and we remained here. We closed the hatches, dropped tunnel 2 pressure and began to check the pressure integrity of the hatches between the ships. Here we encountered some difficulty. During tunnel 2 pressure integrity check, it turned out that air leaked there either from our spacecraft, or from the Apollo. Thus, it was decided to open the hatches again, to re-check the sealing more carefully, and repeat closure the hatches again. We did all this. He dropped the pressure in the tunnel between the spacecraft and began checking the tunnel, for air leakage, and again found that there was a leakage. But after a while the leakage rate began to go down. We informed the ground about this. The Mission Control people kept analyzing the situation, and when we noticed that the leakage rate was going down, we decided to check the hatch latches once again, then for the cosmonauts and astronauts to have a rest. Once again we checked the hatch latches, switched on ... checked the Soyuz pressure integrity, switched on our Pressure Integrity Guard, an automatic system which even during the launch watches out for leakages in our spacecraft. So we activated this system and went to bed. This morning, when we got up, we checked all kinds of pressure again and it turned out that our spacecraft pressure had not changed. We got carried away and worked more than we should have. We also got a chance to talk to President Ford yesterday.

MCC-M End of the Soyuz TV transmission.

MCC-M Soyuz, close the window.

USSR Which one?

MCC-M The one in the OM. The Sun is disturbing us alot.

USSR There's no Sun in the OM.

MCC-M No Sun in OM? We had very strong light spots here. And a very strong microphone gain.

MCC-M Do you have the separation capability?

USSR What? Have what?

MCC-M Is the separation enabled?

USSR No, it's not.

MCC-M It should be enabled and then see if the speaker is on.

USSR Our speaker is not on.

MCC-M Roger. Try to enable the circuit separation. That might do it.

USSR And as to the spots - it's not the window, it's the work light that's in the way a bit.

MCC-M Roger. (Garble) on the sleeves, on the right part of the face. Your intercom is on. That might create a change.

USSR Intercom?

MCC-M Yes, yes.

USSR (Garble) antenna.

KIO This is the Soviet Mission Control Center. Moscow time is 11:58. The communication session with the Soyuz through the tracking stations Ulan-Ude, Ussurisk, Petropavlovsk-Kamchatsky was completed 16 minutes ago. The communication session included the crews' radio conference and a TV transmission, transmission of telemetry data on the onboard systems status, medical and biological telemetry data, external trajectory measurements and command execution on the command link. The entire program of the communication session has been completed. According to the crews' reports, the cosmonauts have monitored the systems. They feel very good. Mission Control Center, Moscow.

ASTP (USSR) MISSION SR86/2  
Time: 03:37 CDT, 68:16 GET  
7/18/75

KIO                      This is the Soviet Mission Control Center. Moscow time is 12:05. GET is 68:45. The Soyuz is now carrying out its 47th orbit, being docked with the Apollo. According to the telemetry data the status parameters of the onboard systems is normal. The DV atmospheric parameters are as follows: pressure - 505 mmHg; temperature 19.3 degrees. In the orbital module: pressure - 513 mmHg; temperature - 27 degrees. Having monitored the onboard systems the cosmonauts will perform transfer activities. The second transfer will begin at 68:50 GET. During this transfer the DMP Vance Brand, who has not been in the Soyuz yet, will transfer to the Soyuz. At the same time, the Soyuz commander Leonov will transfer to the Apollo. After that, the crews' joint activities will begin and they will continue them on the 48th orbit of flight. Then, the subsequent transfers of the cosmonauts will begin. At about 76 hours GET the third transfer will begin, during which the Apollo commander and the Soyuz commander, who'll be there at the time, will transfer to the Soviet spacecraft Soyuz, whereas the CMP Vance Brand and the SFE Valeriy Kubasov will return - get back - transfer to the Apollo. Following this, the last transfer will occur, during which the cosmonauts will take their initial positions. Mission Control Center, Moscow.

END OF TAPE

ASTP (USSR) MISSION SR87/1  
Time: 04:20 CDT, 69:00 GET  
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Garble

KIO This is the Soviet Mission Control Center. Moscow time is 12 hours 20 minutes. The Soyuz spacecraft has been in flight 69 hours. In accordance with the flight plan, the crew has finished its systems check, and has begun operation for the second transfer. These operations include the following: at first, astronaut Stafford transfers to the docking module, makes a systems check of the docking module, and prepares the equipment for conducting the experiment with the multi-purpose furnace. Further, after a few minutes, there will be the atmosphere mix between the command module and the docking module, after which the command module pilot, Vance Brand, will enter the docking module. At that time, the pressure equalization in tunnel 2 of the Soyuz spacecraft will begin. Pressurization to 490 mmHg will then take place in the docking module, that is, to the same pressure which is in the orbital module of Soyuz. In approximately 15 minutes, the pressure integration check will begin for tunnel 2, the tunnel which connects the command module and the docking module, and after the pressure equalization, they will open hatch 4, which connects the orbital module with the tunnel through which the transfer takes place. After that, the 3rd hatch will be opened, the hatch which separates our spacecraft from the American one - the hatch of the docking module. And after that, command module pilot, Brand, will transfer to Soyuz. Further, after that, approximately after 40 minutes, the Soyuz commander, Leonov, will transfer to the docking module. After which the joint experiments will begin. Mission Control Center, Moscow.

KIO This is the Soviet Mission Control Center. Moscow time is 12 hours 40 minutes. The Soyuz spacecraft, flying in joint flight with the Apollo, is finishing its 47th orbit. Presently, it is coming up to the equator over central Africa. In the next, 48th, orbit, the spacecraft will carry out operations for the 2nd transfer. According to the trajectory data, the projected orbital parameters, for the 48th orbit are as follows:

Maximum altitude - 225.5 km;  
minimum altitude - 221. km;  
orbital period - 88.9 minutes;

orbital inclination to the equatorial plane - 51.78°.

In the crew activities program for the 48th orbit are joint activities which flight engineer Kubasov, who will be busy with the Zone-Forming Fungus experiment, and Vance Brand, who will be busy with the multi-purpose furnace, will be conducting. Incidentally at the present time, in a TV report which is being transmitted from the USA, it is being shown how the two cosmonauts, Vance Brand and Thomas Stafford, situated in the docking module, are carrying out the preparatory operations for the experiment and for the transfer. Further, the crew will conduct a communication session in the coverage zone of tracking stations Tbilisi and Djusaly, Kolpashevo, Ulan-Ude, Ussurisk, and Petropavlovsk-Kamchatsky. The communication is expected to begin at 12:51 and last until 13:14 minutes Moscow - -

KIO This is the Soviet Mission Control Center. In a minute, the Soyuz spacecraft will enter the coverage zone of the tracking stations



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Time: 04:20 CDT, 69:00 GET  
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Tbilisi, Djusaly, Kolpashevo, Ulan-Ude, Ussurisk, and Petropavlovsk-Kamchatsky. According to the data of the television report from Houston, 69 hours 29 minutes GET, the crew opened the 3rd hatch which connects the docking module with the orbital module. Mission Control Center, Moscow.

CC-M	Soyuz, Moscow.
CC-M	Soyuz, Soyuz, this is Moscow.
CC-M	Soyuz, Soyuz, this is Moscow.
CC-M	Soyuz, Soyuz, this is Moscow.
CC-M	Soyuz, Soyuz, this is Moscow.
CC-M	Soyuz, this is Moscow.
CC-M	Soyuz, this is Moscow.
CC-M	Soyuz, Soyuz, this is Moscow.
CC-M	Soyuz, this is Moscow.
CC-M	Soyuz, this is Moscow.
CC-M	Soyuz, this is Moscow.
	(Garble)

SCDR Onboard is Vance Brand, Valeriy Kubasov and I. In  
the middle - -

END OF TAPE

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Time: 04:56 CDT, 69:36 GET  
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SCDR On board is Vance Brand, Valeriy Kubasov, and myself.  
In a few seconds I will begin transfer to the Apollo. The hatches are open.  
SCDR It is now in Moscow one hour ... (English)  
SCDR (Garble) and you.  
SCDR This is Soyuz. We are ready.  
SCDR Vance.  
SPEAKER Further.  
SFE (Garble) Wait.  
SCDR A minute.  
SFE Wait.  
SCDR A minute, a minute. Wait. The flight engineer will  
also note it. But right now I'm leaving and don't have time. He will do it.  
SFE Moscow, this is Soyuz 2. Ready.  
SFE The beginning?  
SFE Don't rush. I'm writing.  
SFE Please repeat. Read more slowly or I cannot follow  
you.  
SPEAKER TV-2-2-7-2-10-20 push?  
MCC-M From the connector with USA 347/10.  
MCC-M Connect the connector USA 347/10.  
SFE Moscow, this is Soyuz. Moscow, this is Soyuz 2. How  
do you read me?  
MCC-M We read you excellently.  
SFE Give the connectors or the USA connector. And when to  
what?  
MCC-M To connect?  
SFE Moscow, this is Soyuz 2. I don't read you.  
MCC-M Soyuz, Moscow. USA 347/10, USA 347/10.  
SFE Both USA connectors together?  
MCC-M Yes, both. Yes. After TV2-8, for TV10-3, connect TK-1,  
connectors return to initial position.  
SFE After TV2-8, for TV10-3, connect TK-1. I don't understand  
why to connect.  
MCC-M That's reversed so that TK-1 will work.  
SFE It means to connect connector 347/10-1 with connector  
347/10. Right?  
MCC-M Right.  
SFE After reconnecting, report. We have lost the picture.  
MCC-M Check the connections in TK-1. We lost our picture.  
Soyuz, Moscow. We lost the image approximately 3-4 minutes ago.  
MCC-M Okay, we have the picture. We have it.  
MCC-M Listen.  
SFE Do you have anything else for us now or not?  
SFE Well, right now we have to work on transfer operations.  
MCC-M Delta-P on this transfer where it is less than 1 milli-  
meter within 6 minutes, it is necessary to change to 10 millimeters within  
6 minutes.  
SFE Roger. Delta-P to be changed to 10 millimeters per 6  
minutes.  
MCC-M The same recommendation is given to Apollo.  
USSR Roger. 10 or 15?  
MCC-M 10 millimeters.  
SCDR Roger. 10 millimeters.

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MCC-M 10 millimeters per 6 minutes.  
SCDR Roger. 10 millimeters per 6 minutes.  
MCC-M (Garble) Step further, a little bit lower. Both of you.  
It's - and a little to the right - a little to the right. The TV camera  
is a little in the way. Now it is okay. Still a little farther to the right.  
And please secure the cables, Soyuz 2.  
MCC-M ... let the cables go and they are floating. Right  
now they are leaving. We must say good-bye to them. Roger.  
MCC-M Well, good-bye, Alexey. We'll see you in 5 hours.  
MCC-M Soyuz 2. We have a picture here, all with your cables.  
We do not see you because of them.  
MCC-M Excellent, excellent.  
SFE We'll do it right now.  
SPEAKER ... step are you doing right now? (English)  
MCC-M After you connect TK-1 again instead of TK-3, report  
to us please because we'll switch it on only after this.  
SFE (Garble) We'll do it a little later.  
MCC-M Yes, yes, I understand. In the next orbit.  
SFE We'll do it when we have time.  
MCC-M For the next TV transmission.  
SFE Is that the next orbit?  
MCC-M Yes, the next orbit.

END OF TAPE

ASTP (USSR) MISSION SR89/1  
Time: 05:21 CDT, 70:01 GET  
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KIO This is Soviet Mission Control Center. Moscow time 15 hours 21 minutes. Seven minutes ago the Soyuz communication session, which took place over the tracking stations Tbilisi, Djusaly, Kalpashevo, Ulan-Ude, Ussurisk and Petropavlovsk-Kamchatsky ended. The communication session included conversation with the crew, as well as television from onboard the spacecraft. It also contained telemetry data on onboard systems, bio-telemetry data for medical monitoring, trajectory data, as well as issuing commands. The planned communication session is completed. Moscow Mission Control.

KIO This is Soviet Mission Control Center. Moscow time is 13 hours 42 minutes. Soyuz together with Apollo is completing their 48th orbit. At the present time it is leaving the Earth's shadow and approaching the shores of South America. According to the telemetry data received from the last communication session, the onboard systems are operating normally. Bio-telemetric data and crew's verbal reports both reflect their well being. For the 49th orbit the program of operations is expected to be nominal. Moscow Mission Control Center.

KIO This is Soviet Mission Control Center. Moscow time is 14 hours 3 minutes. The Apollo and Soyuz spacecraft are continuing their orbital flight in a docked configuration. At the present time the Apollo-Soyuz spacecraft commanders, Leonov and Stafford, are in the docking module. Hatch 2, which connects the docking module with the tunnel, is open. In several minutes Soyuz Commander Leonov will transfer from the docking module to the Apollo command module. Moscow Mission Control Center.

KIO Just now the Soyuz commander Leonov completed the transfer from the docking module into the Apollo Command Module. Moscow Mission Control Center.

KIO This is Soviet Mission Control Center. Moscow time is 14 hours 11 minutes. The following program will be executed by the Soyuz crew on the 49th orbit: there will be joint activities of Apollo docking module pilot, Brand, and Soyuz flight engineer Kubasov; TV transmissions; the signing of joint documents, movie photography, condensate dump; and communication sessions within the coverage zones of the Soviet Union tracking stations. The Soyuz and Apollo have crossed the equator and have started their 49th orbit. Moscow Mission Control.

KIO This is Soviet Mission Control Center. Moscow time is 14 hours 19 minutes. Soyuz is completing its 49th Earth orbit. At 14 hours 21 minutes the Apollo and Soyuz spacecraft will be in the coverage zone of Soviet tracking stations. Communications with the Soyuz will be performed over the following stations: Tbilisi, Eupatoria, Djusaly, Kalpashevo, Ulan-Ude, Ussurisk. During the communication session, trajectory ranging will be performed, telemetry and TV data received, as well as conversations with the crew performed. Kubasov and Brand, who are in the Soyuz spacecraft will give TV commentary from Soyuz. 56 seconds are left before the beginning of the next communication session. Moscow Mission Control Center.

CC-M Moscow this is Soyuz.

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Time: 05:21 CDT, 70:01 GET  
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SFE Moscow this is Soyuz 2.  
CC-M Soyuz 2 this is Moscow.  
SFE I read you well.  
CC-M We read you well, too. Take this information concerning the improvement of the quality of TV image. Please try to be as far as possible from the lights, because your clothes are too bright. Also the umbilical cables may be attached by using pieces of velcro which are attached on the walls of orbital module near the gas analyzer.  
CC-M Roger. They were in our way.  
SFE Roger. We shall try to implement this.  
CC-M Good.  
SFE Moscow this is Soyuz - how do you read me?  
CC-M Soyuz this is Moscow. We read you well. How do you read me? I hear you very well, when is the beginning of TV transmission?  
SFE With Apollo?  
CC-M Yes, with Apollo.  
SFE Right away. I do not see the signal light coming on on TK-3.  
SFE How is the picture?  
CC-M One more second, we cannot see it yet. Now we have a picture. We see you, very well.  
SCDR Dear TV viewers: We are now in the second day of our joint flight. We have just completed our second transfer. Vance Brand and Valeriy Kubasov are in the Soyuz and I with Tom Stafford and Deke Slayton are in the Apollo. This is Tom Stafford this is the American astronaut who is familiar to you, he has made 3 space flights and this is his 4th flight. To the right is Slayton. He is an old space veteran but this is his first space flight. I will ask Tom Stafford to show us around the Apollo.  
CC-M Soyuz this is Moscow. You have too much light shining on this - somewhere over there. Okay now it's better.  
CC-M Soyuz this is Moscow. Please ask Tom to face the camera. Come closer, that's better. Tom, which of the onboard systems is the heart of the spacecraft? (English) I asked which onboard system is the heart of the spacecraft?  
CC-M Soyuz this is Moscow. Tom has a ....

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Time: 06:27 CDT, 71:07 GET  
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SCDR Tom!

CC-M Soyuz. This is Moscow.

SCDR Tom has a glick and we cannot see him.

SCDR Tom, there is a (garble) behind you. (English)

SCDR I asked if all the onboard systems - main and backup - are operating.

SCDR Does it take much time to learn to operate all these craft systems? (English)

SCDR I asked if it takes much time to learn to operate all the craft systems.

CC-M It is time to finish the TV transmission. Soyuz, it is time to finish.

SCDR I know, Tom. (English)

SCDR Dear TV viewers we shall now end our short TV transmission and I believe that this will not be our last meeting in space. (Garble) Thank you very much.

CC-M Soyuz 2, at 14:36: (Garble) will finish his TV commentary. (Garble) yes, Vance can start his report.

SFE Vance, you are going to begin your TV report. It is a very small time. I want to ask you 3 questions. (English)

USA Well. How do you read me? Is it time for me to start talking. Okay. (English)

SFE We're in the descent vehicle now. We look out and monitor the operation of the spacecraft main system from the descent vehicle. There is the instrument board - here it is, you can see this on your TV screens now. I would like to illustrate the purpose of this panel to you. This device, also called globe instrument, shows automatically the point of the Earth our spacecraft is flying over at this moment. In front of me, in front of me there is the other panel. It shows us how the system is operating now. This panel has (garble) warning displays. There is one more unit here. Here it is. We can send digital data using this panel in automatic system. Here are 2 command signal devices, the right one and the left one. We can send about 380 commands or instructions to both of the spacecraft. You can see the two couches now. The left one is Soyuz commander's. The right one is mine. There is a pillow in Soyuz commander's couch. We take these during landing and lifting off. At this time we have the pressure garment assembly on. Now the PGA's are in the orbital module. There are two controllers. The left one - left one - left one. This is used for orientation maneuver relative to the center of gravity. The right one is used to translate the spacecraft center of gravity relative orbit and change the spacecraft orbit. The descent vehicle has two windows and a special lighting device. (English)

CC-M Finish up, Soyuz - finish up.

SFE Generally speaking the descent vehicle has more equipment than the orbital module that's why we prefer to spend our free time in the orbital module. Vance, what would you like to say? (English)

CC-M Soyuz 2, finish up.

SFE How do you like the Soyuz spacecraft? (English)

CC-M Soyuz 2 - Soyuz 2, it is time to finish up. Soyuz 2 it's time to finish up. How do you read?

USSR Roger. I read you well.

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CC-M Roger. Soyuz 2. And now try to connect TK-1 in a minimum of time and report to us. We will turn on camera TK-1. Use the previous switching scheme.

SFE When should we end the TV transmission?

CC-M Hurry up.

SFE Okay.

CC-M We have only a few minutes left.

SFE When is it over?

CC-M At 42 minutes. We have 4 minutes left.

SFE Let's go into orbital module, quickly. (English)

SFE What's going on there?

CC-M Familiarization with Soyuz is in progress there.

This is for our own TV viewers.

SFE Continuation of familiarization with Soyuz.

CC-M Yes, in TK-1. That's for our own TV viewers, with our own camera.

SFE Roger. We're on our way.

END OF TAPE

ASTP (USSR) MISSION SR91/1  
Time: 06:58 CDT, 71:18 GET  
7/18/75

USSR Moscow, this is Soyuz, join us.  
MCC-M Roger, thank you. Receive a command. There is an answer.  
We await a report. We have a picture.  
USSR You have a picture?  
MCC-M Yes, the cable please.  
SFE American TV camera are floating by us still. Good afternoon my dear viewers. Again we meet on board the Soviet spacecraft Soyuz. Right now, we have as our guest the American astronaut Vance Brand. The Soyuz Commander, Leonov, is presently in the Apollo spacecraft. Vance Brand and I are presently in the orbital module of the Soyuz. We just conducted two TV reports for the American people on the structure of the Soyuz spacecraft, and now we want to tell you about our activities program and a little about our spacecraft. Yesterday we finished the first transfer at 4:00 o'clock, and today, this morning, we began the second transfer. The second transfer will be longer than the first. It will last about 5 hours. During that time we must carry out a series of joint experiments, conduct many TV sessions, take many movie reels, take many pictures, and exchange souvenirs. Further, we must do a series of joint experiments. So we have a very busy schedule. Here in the orbital module we have everything that is necessary to the work we do here. It's comfortable ...  
MCC-M Is that a window, that light? Or is it from the lamp on the right?  
SFE There isn't any - ...  
MCC-M ... to the right - the lamp (garble) you. You look like negatives. Excellent. Take it away completely.  
SFE How is it now? How is it now, Moscow?  
MCC-M Excellent.  
SFE Excellent?  
MCC-M Yes.  
SFE We simply put the lamp in a different place.  
MCC-M Roger.  
SFE Here, in the inside of the orbital module, we have many different lighting devices which we use for photographs, for movies, and also for television. Our TV session is ending. With this, we wish you all, my comrade viewers, all the best. Good-bye.  
MCC-M Thank you, Soyuz 2, and Soyuz 1. Everything was wonderful.  
KIO This is the Soviet Mission Control Center. Moscow time is 14:56. The scheduled communication session with the Soyuz through Soviet Union tracking stations has been completed. Cosmonauts Alexey Leonov, who is in the Apollo command module, and Valeriy Kubasov in the Soyuz conducted TV transmission for Soviet and American television viewers. According to telemetry information received on the 49th orbit the Soyuz systems status is nominal. The parameters of the gas medium in the Soyuz: descent vehicle pressure, 527.9 mmHg; air temperature of the descent vehicle, 18.6 degrees; orbital module pressure, 534.3 mmHg; orbital module temperature, 22.1 degrees. The next communication session with the Soyuz will take place at 15:52. Mission Control Center, Moscow.



ASTP (USSR) MISSION SR91/2  
Time: 06:58 CDT, 71:18 GET  
7/18/75

KIO This is the Soviet Mission Control Center. Moscow time is 15:25. The Soyuz is in its 49th orbit of flight. At the present time it is flying over the southern extremity of South America. At present the Soyuz has emerged from shadow and is located over the lighted part of the Earth's surface. According to telemetry measurements the projected parameters for the 50th orbit are as follows: maximum altitude, 225.3 km; minimum altitude, 220.78 km. Period of orbit, 88.89 minutes. Orbital inclination, 51.78 degrees. The joint activities of the crew are continuing in the mixed atmosphere. At the present time the Apollo commander, the docking module pilot, and the Soyuz flight engineer are in the Apollo command module. The command module pilot and the Soyuz flight engineer are in the Soyuz orbital module. Mission Control Center, Moscow.

KIO This is the Soviet Mission Control Center. Moscow time is 15:38. The Soyuz is finishing its 49th orbit. In 3 minutes the new, 50th, orbit will commence. The program for the crew in the 50th orbit is as follows: the joint activities of flight engineer Kubasov and command module pilot Brand will continue, there will be a communications session during which TV will be transmitted. The communications session will begin at 15:52. At that time the spacecraft will enter the coverage zone of Eupatoria. Then the spacecraft will enter the coverage zones of tracking stations Tbilisi, Djusaly, Kolpashevo, Ulan-Ude, and Ussurisk. The communication session will end at 16:15. After that the crew will take still and movie photography in the Soyuz. Mission Control Center, Moscow.

KIO This is the Soviet Mission Control Center. In a minute the Soyuz will enter the coverage zone of tracking stations Eupatoria, Tbilisi, Djusaly, Kolpashevo, Ulan-Ude, Ussurisk. The session will last until 16:15.

MCC-M (Garble)  
USSR I'm in the orbital module right now.  
USSR We'll have a better look when we get down there.  
USSR There's the Mediterranean Sea. We have just flown over Africa  
and we are now over the Mediterranean Sea.  
SFE Moscow, this is Soyuz 2. How do you read me? Over.  
SFE Moscow, this is Soyuz 2. How do you read me? Over.  
MCC-M Soyuz 2, this is Moscow. I hear you well. How me?  
SFE I also hear you well.

END OF TAPE

ASTP (USSR) MISSION SR92/1  
Time: 07:53 CDT, 72:33 GET  
7/18/75

CC-M Soyuz 2, Moscow. Read you very well. How do you read me?  
SFE I also read you well.  
CC-M We now have video on our screens.  
SFE Well, we are in the orbital module, near the window. Getting ready for TV transmission. That's why you see us poorly.  
CC-M Roger that.  
CC-M (Garble) much better (English)  
CC-M Soyuz 2, Moscow. On your TA-3 bracket of TK-1 - you should have TA-3 on the bracket.  
SFE TA-3?  
CC-M Yes, theoretically speaking.  
SFE Okay, but it's not on TA-30.  
CC-M You put it there.  
SFE We are trying to get hold of it.  
CC-M Now we've got a picture of the Earth. It's the Apollo camera working.  
SFE I see my air field where I flew 10 years ago. Incredible! (Laughter) Dear American TV people. You saw films about the Soviet Union. Some of you visited my country and you enjoyed the beauties of its cities and towns, rivers, forrests, mountains and seas. Alexey Leonov and me - visited the United States several times and we did enjoy its beautiful landscapes. (English)  
CC-M Soyuz 2.  
SFE On the line.  
CC-M Please, block the window. We're getting too much light here. That's it. That's fine now. Just don't move. Very good.  
SFE It would be wrong to ask which country is more beautiful. It would be right to say that there is nothing more beautiful than our blue planet. You will enjoy the sight of it together with us and we shall help you - explaining what floats below this spacecraft. (English)  
CC-M Too much light.  
SFE We are going to tell you about a little part of our country which you will see on your TV screens. Our spacecraft Soyuz is approaching the USSR territory. Our country occupies one-sixth of the Earth's surface. Its population is over 250 million people. It consists of 15 union republics. The biggest of them is the Russian Federal Republic with the population of 135 million people. (English)  
CC-M Soyuz 2, try to secure the TV camera.  
SFE Can't do that.  
CC-M We'd like to see both of you.  
CC-M Alexey, where are we flying?  
SCDR The Volga area.  
CC-M Orsk or what?  
SCDR The Volgograd area.  
CC-M Volgograd.  
SCDR We've just crossed the Volga - crossed the Volga.  
CC-M Soyuz 2, try to secure the TV camera. We want to see both of you.  
SFE This river is the biggest in Europe. At the moment we are flying over the place where Volgograd City - - (English)  
CC-M Soyuz 2.  
SFE It was called Stalingrad before. In the winter of 1942-1943 the German fascist troops were defeated by the Soviet army here. 330 thousand German soldiers and officers were killed and taken prisoner here.  
CC-M Moscow, this is Soyuz 2. Try to secure the camera, we want to

ASTP (USSR) MISSION SR92/2  
Time: 07:53 CDT, 72:33 GET  
7/18/75

see both of you. Meanwhile, let Soyuz 1 give us some information.

USSR Roger.

CC-M I'll give you 3 minutes.

USSR Three minutes won't do it.

USSR Moscow, Moscow, this is Soyuz. How do you hear me?

CC-M Read you very well, Soyuz. How do you read me?

USSR Read you very well. I am now in the Apollo command module together with Deke Slayton and Tom Stafford. We are flying over the USSR territory and are watching all that's passing very fast below us. Our observation began with the Crimea and now we are approaching the Ural ridge. The Earth looks exceptionally beautiful. It's blue and covered with sparse clouds. (garble)

MCC-M Soyuz 1.

SOYUZ 1 On the line.

MCC-M Make you commentary in English. Soyuz 2, take the camera, we want to see Vance at the window. Soyuz 1 is going on with the commentary.

SCDR Looks like it's a very good day all over the Soviet Union territory. There's a lot of sun everywhere. Blue land, green fields.

CC-M In English, Soyuz 1, in English.

SCDR Okay. (English)

CC-M Too much light, Soyuz 2.

CC-M Keep talking, Soyuz.

SCDR Wait a minute, we have to figure out where we are.

CC-M Roger. You're passing over the launch site area.

Baykonur.

SCDR We are over sunny desert now. It's part of Kazakhstan. Spacecraft Vostok piloted by this just one cosmonaut Yuri Gagarin was launched from here on the 12th of April, 1961. From that time we celebrated this 12th of April every year as the Cosmonaut Day. Our spacecraft was launched -- (English)

CC-M Soyuz 2

SCDR From here too -- (English)

CC-M Ask Vance to block the window with his back - too much light again - and ask him to look at us.

SCDR (Garble) before Valeriy Kubasov and me, was launched from the Baykonur launch pad. (English)

SFE We are going to land here after the end of the mission. This part of Kazakhstan was not cultivated until 15 years ago. Today, it is one of our bread baskets. A new city Tselinogred appeared here. It was only 10 years ago. Not far from here begins the Siberia, the biggest part of our country, rich in natural resources.

END OF TAPE

ASTP (USSR) MISSION SR93/1  
Time: 08:04 CDT, 72:44 GET  
7/18/75

USSR We are over (garble) now. (English)  
MCC-M Soyuz 2, this is Moscow.  
SFE Moscow, this is Soyuz 2.  
MCC-M How is the integrity check?  
SFE Integrity check? Everything is normal.  
MCC-M Roger.  
MCC-M Figures. Pressure in tunnel 2.  
SFE Is TV over?  
MCC-M Yes. TV is over. Thank you.  
SFE Pressure in tunnel 2?  
MCC-M Yes.  
SFE The tunnel 2 pressure changed during the check by  
8 millimeters.  
MCC-M Roger. 8 millimeters.  
MCC-M Soyuz 1, how do you feel?  
SCDR Thank you, excellently.  
MCC-M Roger.  
USSR Where are we flying now?  
MCC-M You are approaching Mongolia.  
USSR Mongolia.  
USSR Mongolia, Mongol. There are Altai Mountains. (English)  
MCC-M Soyuz 2.  
SFE Standing by.  
MCC-M If not necessary, do not activate VHF/AM simplex.  
SFE Received.  
MCC-M Cut off from RCCP by general cut-off.  
SFE I know how to cut off. I have activated it especially for  
this session.  
MCC-M Only 14.(garble)5 hours remained.  
SFE Roger. And altogether it was 20 hours. Yes?  
MCC-M Even more - 27.  
SFE (Garble) session, and we shall not activate anymore.  
MCC-M No, now. It is specified 7, if necessary, cut off  
immediately, as soon as finished. Roger, roger.  
SFE Tunnel 2 pressure is now 280.  
MCC-M Roger, 280.  
SFE The initial pressure - 265.  
MCC-M Roger. Thank you.  
MCC-M Soyuz 1, the beginning of your next report - at 17:20,  
before our zone, begin the report before entering our zone over Madrid.  
How did you get me?  
MCC-M TV2-1, TV2-1, Soyuz.  
MCC-M And also, Soyuz. During radio communication in simplex  
immediately after the end of a phrase do not forget to deploy the push-to-talk,  
because it causes interference on Apollo and makes the radio communication  
worse. How did you get me, Soyuz?  
USSR We got it.  
MCC-M Soyuz, this is Moscow. What percent of movie scenarios do  
you succeed to shoot?  
USSR We did not get you.

ASTP (USSR) MISSION SR93/2  
Time: 08:04 CDT, 72:44 GET  
7/18/75

MCC-M Do you succeed to shoot all the still and movie scenarios?  
USSR Repeat again.  
MCC-M Do you succeed to carry out still and movie photography  
according to plan?  
USSR Yes, yes, we succeed.  
MCC-M All?  
USSR All.  
MCC-M Roger. 100 percent?  
USSR 100. Free, clean - there will be no free film.  
MCC-M Roger, thank you.  
MCC-M Soyuz 2.  
SFE Moscow, this is Soyuz 2.  
MCC-M Write down recommendations for avoiding acoustic charge.  
SFE Ready.  
MCC-M Connect the headsets either to COMM 1 and 2, or to  
COMM 1 and 3, only in such combination. Further, cut off the microphone  
when there are no cosmonauts in the docking module, if you do not use it. Put  
the loudness regulators into the middle position.  
SFE One moment, one moment.  
MCC-M And how much time do you need, Soyuz, to get well prepared  
for TV transmission instead of still and movie photography?  
USSR Instead?  
MCC-M Yes, instead.  
USSR Can I ask a question?  
MCC-M Roger. Right now TV is of a greater importance for us  
than photography.  
USSR It depends on where to transmit from.  
MCC-M You look around and try to estimate it.  
USSR It is before docking ...  
MCC-M Yes, yes, that is why we ask you to estimate the time, and  
maybe we will make some changes in your still and movie photography.  
KIO This is the Soviet Mission Control Center. It is 16:25  
Moscow time. The communication session with the Soyuz spacecraft, which was  
held through the tracking stations Eupatoria, Tbilisi, Djusaly, Kolpashevo,  
Ulan-Ude and Ussurisk ended 10 minutes ago. The communication session program  
contained radio conferences of the crew, TV report of the flight engineer Valeriy  
Kubasov and the Soyuz spacecraft commander Alexey Leonov, transmission of tele-  
metric information on the onboard system status and telemetry on medical control,  
some trajectory measurements, command issue on the command line. The communica-  
tion session program was completely fulfilled. According to the telemetric  
data, the onboard systems are nominal. There are no comments on the cosmonauts'  
health status. The program of activities for the next, 51st, orbit is nominal.  
Mission Control Center, Moscow.

END OF TAPE

ASTP (USSR) MISSION SR94/1  
Time: 08:48 CDT, 73:28 GET  
7/18/75

KIO This is the Soviet Mission Control Center. Moscow time is 16:47. The Soyuz has been in flight for 73 hours and 28 minutes. At the present time it has emerged from shadow and is located over the Pacific Ocean. According to telemetry data, the pressure of the descent vehicle for the 50th orbit was 534 mmHg. The temperature of the descent vehicle was 18.6 degrees. The pressure of the orbital module was 542 mmHg. The temperature in the orbital module was 23.6 degrees. According to trajectory measurements, the projected orbital parameters were calculated. For the 51st orbit, they are as follows: maximum altitude, 225.2 pkm; minimum altitude, 220.7. Orbital period is 88.89 minutes. Orbital inclination, 51.78 degrees. On the next, 61st orbit, the Soyuz will pass over the coverage zones of tracking station Eupatoria, Tbilisi, Djusaly, Kolpashevo. The communication session with the crew will commence at 17:25. On the 51st orbit, in accordance with the flight program, the following crew procedures have been planned: still and movie photography of the scientific experiments will be continued by the Apollo CMP and the SFE; during the communication session, the crew will transmit television. After that, the order of the day calls for the crew to eat lunch. After lunch, they will begin operations for the third transfer. Mission Control Center, Moscow.

KIO This is the Soviet Mission Control Center. In three minutes the 52nd orbit of the Soyuz will begin. Excuse me, the 51st orbit. The planned crew procedures for this orbit are the following: the joint activities pertaining to still and movie photography will be continued, television will be transmitted during coverage. The communication session will begin over tracking station Madrid at 17:18. The communication session will end after LOS at Ulan-Ude at 17:40. After communication, the crew will eat lunch, then begin operations for the third transfer. Mission Control Center, Moscow.

KIO This is the Soviet Mission Control Center. In a minute, the Soyuz will enter the coverage zone of tracking stations Madrid, Eupatoria, Tbilisi, Djusaly, Kolpashevo, and Ulan-Ude.

CC-M Soyuz-1, Soyuz 1, this is Moscow. Over.

CC-M Soyuz-1, Soyuz 1, this is Moscow. How do you read? Over.

CC-M Soyuz-1, Soyuz-1, this is Moscow. How do you read? Over.

CC-M Soyuz 1, Soyuz 1, this is Moscow. How do you read? Over.

CC-M Soyuz 1, Soyuz 1, this is Moscow. How do you read? Over.

CC-M Soyuz 1, Soyuz 1, this is Moscow on the line. Over.

SFE Moscow, this is Soyuz 2. How do you read?

CC-M Soyuz-2, this is Moscow. I read you well. Over.

SFE Have you already talked to Soyuz 1?

CC-M We haven't established communications with Soyuz 1. If you get the chance, make sure that the comments on American space food during his transmission, which occurs exactly from 17:20 to 17:26, 17:20 to 17:26. At 17:26 the transmission from Soyuz 2 will begin. TV camera 1 on T-1. How did you read? Over.

SFE TV camera 1 (garble) on T1. (Garble).

CC-M Soyuz-2, transmission from Soyuz 1 is from 17:20 to 17:26.

SFE It's already 17:20.

CC-M Soyuz 2, we are waiting for the transmission of Soyuz 1 until 17:26. Soyuz 2, at 17:26 your transmission begins, TV camera 1 on T-1. Prepare the lighting, shut the window shade and together with the CMP, take your place in front of the camera behind the table. How did you copy? Over.

SFE Moscow, this is Soyuz 2. I didn't understand you.

ASTP (USSR) MISSION SR94/2  
Time: 08:48 CDT, 73:28 GET  
7/18/75

CC-M Soyuz 2. At 17:26, your transmission begins. TV camera 1 on T-1. Prepare the lighting, close the shade over the window (garble) and together with Vance, take your place in front of the camera behind the table. Over. Soyuz 2, did you copy the information?

SFE Soyuz 2 here. I can't understand you at all. We have very strong interference.

CC-M Soyuz 2, at 17:26, your television transmission will begin, TV camera 1 on T-1. Prepare the lighting, close the window shade, and together with Vance, take your place before the camera behind the table. After transmission, TV camera 1 an T-3. How did you read? Over.

SFE Which lights should be connected? (Garble)

CC-M Those required according to instructions. Over.

END OF TAPE

ASTP (USSR) MISSION SR95/1  
Time: 09:25 CDT, 74:05 GET  
7/18/75

CMP Vance, I can say that - (Garble) Everything is going according to the flight plan. I think that everything is going very well. Of course we are friends, we understand each other very well. I think that soon we will have dinner.

USSR Great, thank you. Excellent. Do you like to fly in Soyuz spacecraft? (English)

CMP Of course - the Soyuz is a good spacecraft.

USSR Thank you very much. (English)

USSR We will now continue our TV reporting. Our joint activities with Vance Brand here in the Soyuz spacecraft will soon be finished. There is still one thing to do - our joint dinner. We have conducted all of our joint experiments, tests, several television communications, and now the final stage in our joint stay here is approaching. In commemoration of our stay in your spacecraft, I would like to give to him from the Russian and Soviet people a gold medallion of the Apollo-Soyuz. You can see it now on your TV screens. Such medallions were given to Tom Stafford and Deke Slayton yesterday. And today we give it to Vance Brand.

SFE It is a gold medal from Russian people to you. (English)

USSR Apollo Soyuz Test Project.

USSR Now we are beginning the final stage of our stay here and our joint activities in the Soyuz, before returning to the Apollo spacecraft, because soon Vance Brand and I are going to visit Apollo. We are beginning our space dinner because much time has already passed, and we must eat a little. Space dinner, as you know - -

MCC-M Moscow, this is Soyuz 2 - How do you read me? Soyuz 2, I read you normally on - - Release push to talk button. Soyuz, we hear you well, release PTT button.

USSR Today we have cabbage soup, sauerkraut soup and fresh cabbage soup. Vance likes fresh cabbage soup and I have a sauerkraut soup. For the 2nd course, we have meat, chicken with eggs, for the 3rd we have juices black-berry juice with sugar, coffee, and also prunes and some strawberries. We have here everything we need for food preparation. Here to the right is the kitchen. It is an electrical kitchen. - It is very, very small, comfortable - any housewife would like to have this kitchen. We have already used it and our first course is already warm. We're almost - and we just took it out of this heater. I'd like to ask Mr. Brand how he likes our space food?

CMP Your bread and meat and soup - I think that Russian food is like American food. There's not a big difference.

USSR This evening we'll try your food in Apollo.

ACDR Soyuz, this is Apollo.

SFE Moscow, this is Soyuz 2.

ACDR Roger. Did you want Alexey to give a commentary about the food here? (English)

USSR Moscow, this is Soyuz 2 stand by. I'm ready.



ASTP (USSR) MISSION SR95/2  
Time: 09:25 CDT, 74:05 GET  
7/18/75

MCC-M TV 11-1. TV commentary from the Soyuz docking module will  
not be performed.  
USSR Roger.  
MCC-M Soyuz 2 - your TV-11 report from OM is scheduled for 18:59  
to 19:08.  
USSR Which bracket should be used?  
MCC-M Bracket 2, now mount TK1 on T-3, the coverage will be per-  
formed from this position. After TV-11 is finished, switch on TK-3.  
USSR What connector should be used for TK3?  
MCC-M After TV-11, the same one as TK-1 is connected to now.  
USSR Yes, but I don't have TK-3 now; it's still in the Apollo.  
MCC-M Yes, but you have the connector. Connect connector 347/10.  
USSR I'll write this down. To connect which connector to what?  
MCC-M In the previous order.  
USSR Repeat.  
MCC-M That's the previous operation 347/10 to 347/1.

END OF TAPE